

GENERAL NPDES PERMIT FOR RESIDUAL
AQUATIC PESTICIDE DISCHARGES FROM
ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

ORDER NO. 2013-0002-DWQ
NPDES NO. CAG990005

Attachment E – Notice of Intent

RECEIVED

WATER QUALITY ORDER NO. 2013-0002-DWQ
GENERAL PERMIT NO. CAG990005

JUL 21 2016

DIVISION OF WATER QUALITY

STATEWIDE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
(NPDES) PERMIT FOR RESIDUAL AQUATIC PESTICIDE DISCHARGES TO WATERS OF
THE UNITED STATES FROM ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

I. NOTICE OF INTENT STATUS (see Instructions)

Mark only one item	A. New Applicator	B. Change of Information: WDID# 5B10AP00003
	C. <input type="checkbox"/> Change of ownership or responsibility: WDID#	

II. DISCHARGER INFORMATION

A. Name FRESNO METROPOLITAN FLOOD CONTROL DISTRICT			
B. Mailing Address 5469 E. OLIVE AVE.			
C. City FRESNO	D. County FRESNO	E. State CALIFORNIA	F. Zip 93727
G. Contact Person DANIEL ROURKE	H. E-mail address danielr@fresnofloodcontrol.org Environmental Manager	I. Title	J. Phone (559)456-3292

III. BILLING ADDRESS (Enter Information only if different from Section II above)

A. Name			
B. Mailing Address			
C. City	D. County	E. State	F. Zip
G. E-mail address	H. Title	I. Phone	

IV. RECEIVING WATER INFORMATION

- A. Algaecide and aquatic herbicides are used to treat (check all that apply):
- ☒ Canals, ditches, or other constructed conveyance facilities owned and controlled by Discharger.
Name of the conveyance system: FMFCD RURAL STREAMS SYSTEM
 - ☒ Canals, ditches, or other constructed conveyance facilities owned and controlled by an entity other than the Discharger.
Owner's name: FRESNO IRRIGATION DISTRICT & PRIVATE OWNERS
Name of the conveyance system: FRESNO COUNTY STREAM GROUP
 - Directly to river, lake, creek, stream, bay, ocean, etc.
Name of water body: _____
- B. Regional Water Quality Control Board(s) where treatment areas are located
(REGION 1, 2, 3, 4, 5, 6, 7, 8, or 9): Region 5
(List all regions where algaecide and aquatic herbicide application is proposed.)

V. ALGAECIDE AND AQUATIC HERBICIDE APPLICATION INFORMATION

- A. Target Organisms: _____
AQUATIC WEEDS
- B. Algaecide and Aquatic Herbicide Used: List Name and Active ingredients
CURRENT APPROVED PERMIT ALLOWS THE USE OF GLYPHOSATE AND TRICLOPYR.
THIS CHANGE OF INFORMATION REQUEST IS TO ALLOW IMAZAMOX AND IMAZAPYR
TO BE APPLIED.
- C. Period of Application: Start Date 8/15/16 End Date Termination of Permit
- D. Types of Adjuvants Used: _____
NONYLPHENOL

VI. AQUATIC PESTICIDE APPLICATION PLAN

- Has an Aquatic Pesticide Application Plan been prepared and is the applicator familiar with its contents?
☒ Yes ☐ No
- If not, when will it be prepared? _____

VII. NOTIFICATION

- Have potentially affected public and governmental agencies been notified? ☒ Yes ☐ No

VIII. FEE

- Have you included payment of the filing fee (for first-time enrollees only) with this submittal?
☐ YES ☐ NO ☒ NA Fee submitted w/2013 Permit application.

GENERAL NPDES PERMIT FOR RESIDUAL
AQUATIC PESTICIDE DISCHARGES FROM
ALGAE AND AQUATIC WEED CONTROL APPLICATIONS

ORDER NO. 2013-0002-DWQ
NPDES NO. CAG990005

IX. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment. Additionally, I certify that the provisions of the General Permit, including developing and implementing a monitoring program, will be complied with."

A. Printed Name: ALAN HOFMANN

B. Signature:  Date: 7/18/16

C. Title: GENERAL MANAGER-SECRETARY, FMFCD

XI. FOR STATE WATER BOARD STAFF USE ONLY

WDID:	Date NOI Received:	Date NOI Processed:
Case Handler's Initial:	Fee Amount Received: \$	Check #:
<input type="checkbox"/> Lyris List Notification of Posting of APAP	Date _____	Confirmation Sent _____

RECEIVED

JUL 21 2016

DIVISION OF WATER QUALITY

JULY 18, 2016

FRESNO METROPOLITAN
FLOOD CONTROL DISTRICT

2012-2013 Aquatic Pesticide Application Plan (2016 Amendment)

Prepared for:

FRESNO METROPOLITAN FLOOD CONTROL DISTRICT
WATER QUALITY ORDER NO. 2013-0002-DWQ
GENERAL PERMIT NO. CAG990005
(559) 456-3292

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1.0 Background

In March of 2001, the Ninth Circuit Court of Appeals ruled that discharges of pollutants from the use of aquatic pesticides to waters of the United States require coverage under an NPDES permit. Consequently, the State Water Resources Control Board developed a Statewide General National Pollutant Discharge Elimination System (NPDES) Permit No. CAG990003 to cover short-term seasonal discharges by public entities of pollutants associated with the application of aquatic pesticide for resource or pest management. An updated version of the Aquatic Pesticide Permit for the control of aquatic weeds (“Weed Permit”, General Permit No. CAG990005) was completed in 2004. In May 2009, the Weed Permit expired; a new general permit was adopted on and became effective on December 1, 2013.

The District attained coverage under the 2013 NPDES permit to more effectively and efficiently remove weeds from streams and channels within the Fresno Streams Group. An Aquatic Pesticide Application Plan (APAP) is a comprehensive plan developed by the discharger that describes the pesticide application program, the need for the project, methods to reduce water quality impacts and how potential impacts will be monitored. This APAP satisfies the 2013 Weed Permit requirements. The 2013 Weed Permit requires that the APAP contain the following elements:

- a) Description of the water system to which algaecides and aquatic herbicides are being applied;
- b) Description of types of weed(s) and algae that are being controlled and why;
- c) Discussion of the factors influencing the decision to select algaecide and aquatic herbicide applications for algae and weed control;
- d) Algaecide and aquatic herbicide products or types of algaecides and aquatic herbicides expected to be used;
- e) Description of the treatment area in the water system;
- f) If applicable, list the gates or control structures to be used to control the extent of receiving waters potentially affected by algaecide and aquatic herbicide application;
- g) If the Discharger has been granted a section 5.3 exception, describe the exception period. If weeds are also controlled outside of this period, describe how it is ensured that receiving water criteria are not being exceeded;
- h) Description of monitoring program;
- i) Description of procedures used to prevent sample contamination from persons, equipment, and vehicles associated with algaecide and aquatic herbicide application;
- j) Description of the BMPs to be implemented;
- k) Examination of Possible Alternatives. Dischargers should examine the alternatives to algaecide and aquatic herbicide use to reduce the need for applying algaecides and herbicides.

2.0 Description of Water Bodies and Systems Controlled

The District currently maintains a series of channels and streams that drain rural lands lying to the east of the metropolitan area. These streams and channels drain approximately 200 square miles to the San Joaquin River. There is a history of flooding along many of the streams and channels and water would flow uncontrolled into the local canal system and interferes with the use of canals to manage flood waters downstream in the urban area. The District's goal is to preserve, restore and maintain the streams and channels within this rural area and to do so in a way that would alleviate flooding. **Figure 1** shows an overview of the District's management area.

All of the waterways in this system are naturally lined channels and streams that support vegetation growth. The District must maintain these channels to have minimal vegetation, in order to prevent flooding. The District currently uses a combination of physical vegetation removal to keep the waterways flowing.

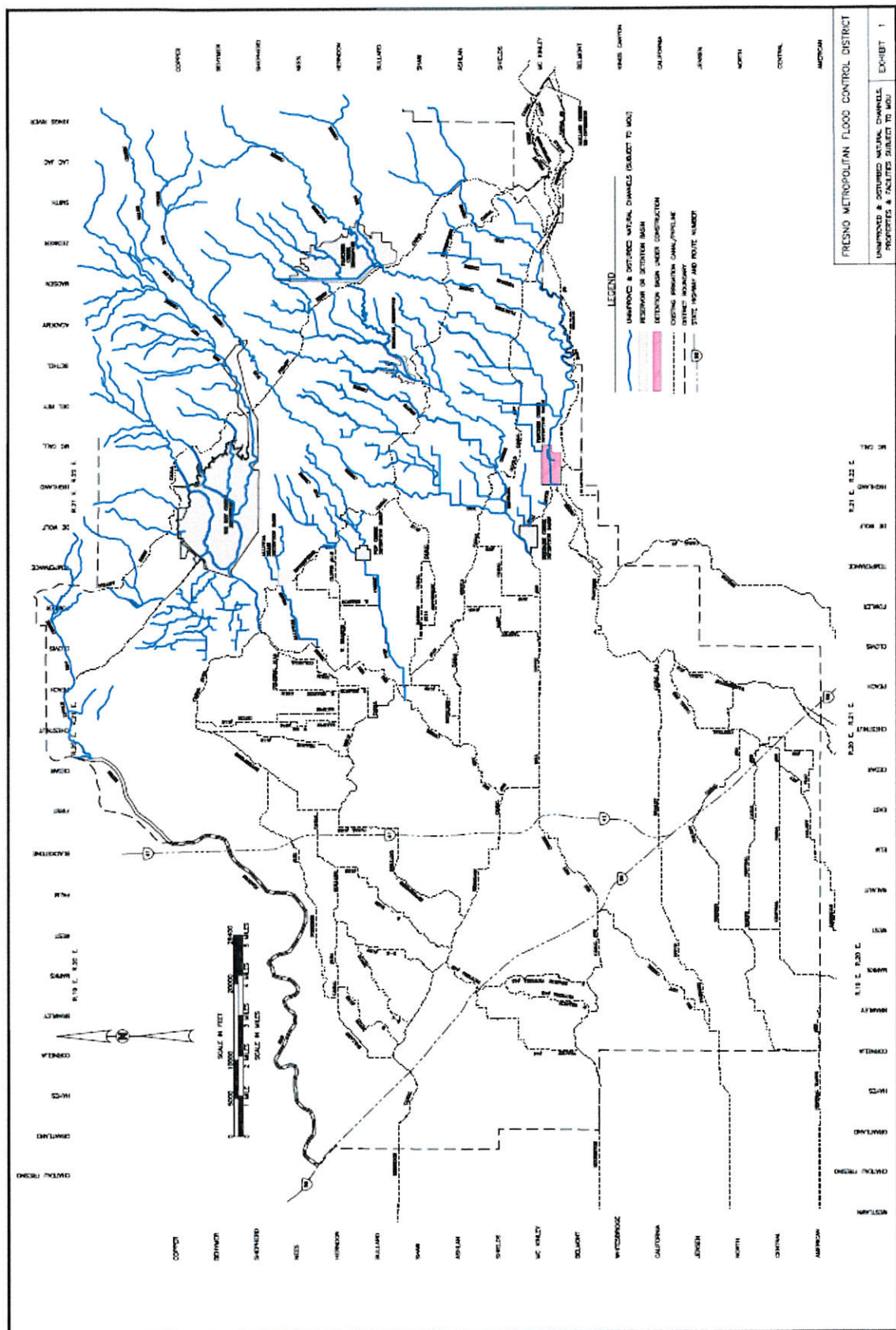


Figure 1. Streams and Channels within the District's Management Plan

3.0 Description of Application and Treatment Area

The District will apply herbicides to the target vegetation on channel bottoms and side slopes. The District will not apply herbicides directly to the adjacent water bodies. Incidental contact of herbicides with water might occur when there is overspray during application. Application areas will be within channels specifically selected due to their limited capacity to drain stormwater flow. Since the District will not apply herbicides to the water bodies the treatment area is the same as the application area.

4.0 Description of Weeds

District maintained drainage channels and waterways host a variety of weeds and vegetation. The weeds include a variety of grasses, broadleaf plants, reeds and other aquatic species. These weeds adversely impact the ability for the channels to convey stormwater and increase the potential for flooding in the rural areas.

5.0 Discussion of Factors Influencing Aquatic Pesticide Use

The District will apply glyphosate, triclopyr, imazamox and/or imazapyr directly to channels and streams on areas that exhibit a limited capacity to drain stormwater flow, which will result in potential flooding. The District will apply the herbicides directly to the vegetation that line the channels. Application of the herbicides has proven to be the most effective, cost efficient and environmentally compatible option for controlling vegetation in the drainage channels. Physical removal methods can cause problems with erosion control as well as habitat disruption and water quality degradation.

6.0 Types of Aquatic Pesticides Used and Application Methods

The District will apply glyphosate, triclopyr, imazamox and/or imazapyr to control channel weed growth. Glyphosate is a broad spectrum systemic herbicide that kills most vegetation that it comes in contact with. Triclopyr is also a systemic herbicide that is used for control of broadleaf plants. Imazamox and Imazapyr are similar imidazolinone herbicides used in forestry, non-cropland and certain commercial crops. They can be used at extremely low rates to control both grasses and broadleaf plants and share low toxicity on animals, birds, fishes, and invertebrates.

All applications will be made by following the product label and BMPs. Adjuvants and surfactants will be selected as appropriate based on the herbicide chosen.

The District will use multiple application methods depending on the abundance of target vegetation and site accessibility. Typically, the District applies herbicides from a vehicle using either a boom spray or hand spray. Depending, on the location of the application site, a backpack sprayer may also be used.

7.0 Monitoring Plan

This Monitoring Plan includes the overall approach, site selection, sampling procedures, quality assurance/quality control (QA/QC), and reporting. The District must comply with the Monitoring and Reporting Program (MRP), which is detailed in Attachment C of the 2013 Weed Permit.

The goals of the MRP are to:

- 1 Identify and characterize algaecide or aquatic herbicide application projects conducted by the Discharger;
- 2 Determine compliance with the receiving water limitations and other requirements specified in this General Permit;
- 3 Measure and improve the effectiveness of the APAP;
- 4 Support the development, implementation, and effectiveness of BMPs;
- 5 Assess the chemical, physical, and biological impacts on receiving waters resulting from algaecide or aquatic herbicide applications;
- 6 Assess the overall health and evaluate long-term trends in receiving water quality;
- 7 Demonstrate that water quality of the receiving waters following completion of resource or weed management projects are equivalent to pre-application conditions; and
- 8 Ensure that projects that are monitored are representative of all algaecide or aquatic herbicide and application methods used by the Discharger.

7.1 COMMUNICATION PLAN

Daniel Rourke with the Fresno Metropolitan Flood Control District will be the primary contact for this project. For safety and logistical purposes, sampling crew should always have a project contact list.

Table 1. Project Contact list

Name	Role	Agency/Company	Phone Number	Email
Brent Sunamoto	District Operations Engineer	Fresno Metropolitan Flood Control District	559.456.3292 (o)	brenths@fresnofloodcontrol.org

Kristine Johnson	Permit Compliance Advisor	Fresno Metropolitan Flood Control District	559.456.3292 (o)	Kristinej@fresnofloodcontrol.org
Daniel Rourke	Permit Compliance Advisor	Fresno Metropolitan Flood Control District	559.456.3292 (o)	danielr@fresnofloodcontrol.org
Paul Allen	Pesticide Application Manager	Fresno Metropolitan Flood Control District	559.456.3292 (o) 559.696.1035 (m)	PaulA@fresnofloodcontrol.org
Mark Featherstone	Senior Facilities Technician	Fresno Metropolitan Flood Control District	559.456.3292 (o) 559.260.5066 (m)	MarkF@fresnofloodcontrol.org
Bret Phillips	Senior Facilities Technician	Fresno Metropolitan Flood Control District	559.456.3292 (o) 559.301.8574 (m)	BretP@fresnofloodcontrol.org
Michelle Kawaguchi	Analytical Laboratory Contact	BSK Associates	559.497.2888 (o)	mkawaguchi@bskassociates.com

o = office
m = mobile

7.1.1 Roles and Responsibilities

The following define the roles and responsibilities for the above project contact list.

Permit Compliance Advisor

- Assists with the interpretation of permit compliance
- Reviews annual reports
- Manages analytical laboratory results and ensures they meet QA/QC requirements
- Prepares annual report and any necessary noncompliance reporting

Pesticide Application Manager

- Oversees pesticide applicator contracts
- Decides when pesticide application is necessary and whether a monitoring event is needed

Facilities Technicians

- Responsible for field sampling logistics
- Coordinates and manages sampling crew

Pesticide Applicators

- Responsible for all aspects of pesticide application

Sampling Crew

- Responsible for collection and delivery of water quality samples

Analytical Laboratory Project Manager

- Receives and manages laboratory analyses of analytical samples

7.2 WATER QUALITY MONITORING

This section details the monitoring frequency, site selection and monitoring types that are associated with each event.

7.2.1 Monitoring Frequency

The District first determines whether a pesticide application event is needed, and then determines if monitoring is necessary or required. The need for monitoring depends on the environmental setting and the current number of pesticide applications during the calendar year as described for each herbicide below. Monitoring type is designated in one of two environmental settings: 1) flowing waters and 2) non-flowing waters.

7.2.1.1 Glyphosate

The District will monitor for glyphosate for one application event for each environmental setting in a calendar year. If glyphosate is only applied to one environmental setting in a year, then only one event must be conducted. Moreover, additional monitoring events would not be required in that environmental setting for the remainder of the calendar year.

7.2.1.2 Triclopyr

The District will monitor for triclopyr for a minimum of six events per environmental setting per calendar year. If triclopyr is applied less than six times per environmental setting, then samples will be collected at each application event. If the results from six consecutive events show that triclopyr concentrations are not exceeding the receiving water monitoring trigger of 13 mg/L, then the number of annual monitoring events per environmental setting can be reduced to one. However, if the yearly sampling event exceeds the monitoring trigger, the number of yearly sampling events will return to six.

7.2.1.3 Nonylphenol

The District will monitor nonylphenol if any surfactants are used with the application of glyphosate or triclopyr. The district will collect nonylphenol samples in the same manner as the herbicide that the surfactants are used with.

7.2.1.4 Imazamox & Imazapyr

The District will treat applications of imazamox and imazapyr as identical (interchangeable) applications for purposes of monitoring, which will take place a minimum of six events per environmental setting per calendar year. If imazamox/imazapyr is applied less than six times per environmental setting, then samples will be collected at each application event. If the results from six consecutive events show that imazamox/imazapyr concentrations are not exceeding the receiving water monitoring trigger of 11.2 mg/L, then the number of annual monitoring events per environmental setting can be reduced to one. However, if the yearly sampling event exceeds the monitoring trigger, the number of yearly sampling events will return to six.

7.2.2 Determining Sample Locations and Sample Types

The District will determine sampling locations based on the location of a planned application event and its environmental setting. The application area will also be described in the log sheet with latitude and longitude and brief description of the location (e.g., “Dry Creek upstream from the Patterson Bridge”). For each chosen site the District will perform the following monitoring:

7.3 PERMIT REQUIREMENTS

Pre-event background monitoring

The District will collect upstream background samples at the time of the application event or in the application area, prior to (up to 24 hours in advance of) the application event. **Table 2** summarizes this site’s location and ID.

Event monitoring

The District will collect event monitoring samples immediately downstream of the treatment area in flowing waters or immediately outside of the treatment area in non-flowing waters, immediately after the application event, but after sufficient time has elapsed such that treated water would have exited the treatment area. **Table 2** summarizes this site’s location and ID.

Post-event monitoring

Post-event monitoring samples shall be collected within the treatment area within one week after application. **Table 2** summarizes this site’s location and ID.

Table 2. Site Names and IDs

Site Name	Site ID	Location
Pre-event Background	BG-0	Upstream of application area
Application Area	AA-0	Downstream of application area in flowing waters, immediately outside/adjacent to treatment area in non-flowing waters.
Post-event Application Area	AA-1	At location of original application area sample

Table 3. Constituent List

Analyte Name	Analytical Method	Reporting Limit	Hold Time (Days)	Required Volume	Preservative
Glyphosate	EPA 547	2 µg/L	14	120 mL	None
Triclopyr	EPA 8151-modified	0.5 µg/L	7	1 Liter	None
Nonylphenol ⁴	EPA 550.1m	1 µg/L	7	100 mL	None
Imazamox	EPA 8151	1.0 ug/L	5	1 Liter	None
Imazapyr	EPA 8151	1.0 ug/L	5	1 Liter	None
Temperature ¹	2550 B-2000	N/A	Immediately	N/A	None
pH ²	EPA 150.1 or 150.2	1-14 std. units	Immediately	100 mL	None
Conductivity ²	EPA 120.1	[3]	28	100 mL	None
Turbidity ²	EPA 180.1	[3]	2	100 mL	None
Dissolved Oxygen ¹	EPA 360.1 or 360.2	[3]	Immediately	N/A	None

¹Must be field measured²May be field or laboratory measured³Dependent on field instrument used⁴Required when a surfactant is used

7.4 Monitoring Preparation and Logistics

This section describes field manager and sampling crew preparations before a planned monitoring event.

7.4.1 Field Equipment

Before each monitoring event, the field manager should inventory monitoring equipment and replace items as necessary. A checklist for recommended monitoring equipment is listed in **Table 4**. This list can be changed throughout the monitoring year, based on the needs of the sampling crew. Additionally, all field meters and equipment shall be maintained and calibrated as per the requirements of the manufacturer.

Table 4. Monitoring Equipment List

Equipment List
<input type="checkbox"/> Grab sample bottles <input type="checkbox"/> Grab sampling pole <input type="checkbox"/> Clean intermediate containers <input type="checkbox"/> Bubble wrap or other packing material <input type="checkbox"/> Waders and/or hip boots <input type="checkbox"/> Waterproof pens <input type="checkbox"/> Extra labels for sample containers <input type="checkbox"/> Powder free nitrile gloves <input type="checkbox"/> Coolers <input type="checkbox"/> Ice <input type="checkbox"/> Laboratory supplied blank water for field blanks <input type="checkbox"/> One gallon Ziploc bags (for storage of clean gloves and items) <input type="checkbox"/> Field meters (pH, conductivity, temperature, dissolved oxygen, turbidity) <input type="checkbox"/> Deionized water squirt bottle for rinsing field meters <input type="checkbox"/> First aid kit <input type="checkbox"/> Cellular phone <input type="checkbox"/> GPS Device <input type="checkbox"/> Digital Camera
Document List
<input type="checkbox"/> Aquatic Pesticides Application Plan <input type="checkbox"/> Area map <input type="checkbox"/> Field log book (including logs from Appendix A) <input type="checkbox"/> Chain-of-custody forms (Appendix B)

7.4.1.1.1**Sample Containers and Related Materials**

The field manager will order bottles and related sample collection materials from the analytical laboratory prior to the planned monitoring event. With each bottle order the following materials will be requested:

- Grab sample bottles
- Ice chests
- Blank water for field blanks
- Chain of custody forms

7.4.1.1.2**Sample Label**

Waterproof sample bottle labels will be applied to sample bottles prior to the start of each monitoring event. Labeling bottles in advance will simplify field activities and labels will better adhere to the sample bottles when they are dry. Sample labels should contain the following information:

FMFCD Weed Permit Monitoring
Environmental Setting – Event No. – Site ID
Analysis Method and Target Analyte
Sampling Crew Names
Date and Time

The following are definitions for the above sample label:

- Environmental Setting describes the nature of the water body as either “static” or “flow.”
- Event No. are unique numbers assigned to each event in a calendar year. Event numbers should be in sequential order for each environmental setting.
- Site ID is a unique site identifier from **Table 2**.

7.4.2 Field Sampling Plan

This section describes the methods the sampling crew will follow upon arrival at the monitoring site, sample collection procedures, and any necessary forms the sampling crew will be required to complete.

7.4.2.1 Field Forms

During each monitoring visit, the sampling crew will complete a field form, which should be kept in a bound logbook. The form will contain visual observations pertaining to the monitoring area, appearance of the waterway and weather conditions, as well as any other notable observations. There will also be a section for relevant field measurements. Sampling crews will also record the latitude/longitude of each site and note whether photos were taken. All field forms will be signed and dated by the sampling crew, upon completion of site activities. **Appendix A** contains the field form that will be used to record all field data.

7.4.2.2 Sample Collection Procedures

Upon arrival, sampling crews should visually inspect the sample area for any safety issues or problems that would influence sample collection. If conditions present sampling problems, an alternative sampling method or location might be required. If none exist, the sampling crew can proceed as follows:

1. Wade to mid-stream with the sample containers;
2. Wait until any disturbed sediment washes downstream and the channel returns to normal conditions;
3. Facing upstream, fill sample bottle by submerging it to mid-depth. Sample bottle should be rinsed three times with site water, if it does not contain preservatives. The “clean techniques,” which are outlined in section 7.4.2.3;
4. After ensuring the sample container’s cap is secure, place the full sample bottle in a cooler with sufficient ice;
5. All glass bottles should be secured with bubble wrap or other packaging material to prevent bottle breakage during transportation;
6. Once all sample bottles have been secured, begin collecting field measurements according to the procedures in section 7.4.2.4;
7. Samples should remain in a secure, dark area and on ice ($< 6^{\circ}\text{C}$), until they are delivered to the laboratory.

If sample collection by wading and direct filling is not possible, an alternative sample collection method may be used. The sample bottle or an intermediate bottle can be attached to a grab pole, which then can be used to sample mid-stream.

7.4.2.3 Clean Sample Handling

“Clean sampling” techniques are required to collect and handle water samples in a way that does not result in contamination, loss, or change in the chemical form of the analytes of interest. Clean techniques will be used during the collection of water samples for any pesticide analysis. Samples will be collected using the protocols summarized below:

- Samples will be collected only into new clean sample bottles provided by the analytical laboratory.
- Sampling personnel will wear clean, powder-free, nitrile gloves at all times during sample collection.
- Clean, powder-free nitrile gloves are changed whenever something not known to be clean has been touched.
- Clean techniques will be employed whenever handling sample bottles or equipment used for the collection of samples
- Water samples are most cleanly obtained by surface grab, using clean powder-free nitrile gloved hands, and facing into a flowing body of water.
- To reduce potential contamination, sample collection personnel must adhere to the following rules at all times while collecting or handling water samples:
 1. No smoking.
 2. Always wear clean, powder-free, nitrile or similar surgical-quality gloves when handling sample bottles.
 3. Never sample near a running vehicle. Do not park vehicles in immediate sample collection area (even non-running vehicles).
 4. Minimize the amount of time any sample bottle is left open.
 5. Do not set sample bottle lids down where they may accumulate contamination.
 6. Prevent foreign material (blowing dust, leaves, etc.) from entering any open sample bottle.
 7. Do not breathe, sneeze, or cough in the direction of an open sample bottle.
 8. Avoid allowing rainwater to drip from rain gear into sample bottles.
 9. Never touch the inside surfaces of sample bottles or sample bottle lids, even with gloved hands.

7.4.2.4 Field Measurement Procedures

Field measurements will be recorded for the parameters listed in **Table 3**. These measurements will be collected using a multi-parameter or multiple single-parameter field meters. The field meter should be submerged mid-depth at the location where chemical samples were collected. If field measurements at this location are difficult to directly measure, measurements may be

obtained using a clean intermediate container. The intermediate container should be sampled by the methods outlined in section 7.4.2.2.

7.4.2.5 Chain of Custody Forms

Chain of Custody (CoC) forms will be filled out by the sampling crew for all samples submitted to the laboratory. Sample ID, date, time, sample location and analysis requested are required on each chain of custody form. Any necessary QA/QC should be noted on the chain of custody form. An example chain of custody form is in **Appendix B**.

7.5 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC)

The QA/QC data evaluation assesses contamination, precision and accuracy. Laboratory QA/QC is accomplished by the normal method-specific procedures of the certified lab. Field-level QA/QC is accomplished through the use of proper sample collection, handling, storage and transport procedures detailed in this Plan sections 7.4.2.2 through 7.4.2.5.

7.6 NOTIFICATION & REPORTING

The following are the notification and reporting requirements in the Weed Permit.

7.6.1 Annual Notification

Every calendar year, at least 15 days prior to the first application of aquatic herbicide, the Fresno Metropolitan Flood Control District notifies potentially affected public agencies, including the Fresno Irrigation District, which is the agency responsible for conveying canal water to local farmers.

7.6.2 Annual Report

An annual report for the reporting period of January 1st to December 31st will be prepared by the district and submitted to the Central Valley Regional Water Quality Control Board (RWQCB) by March 1st of the following year. All reports submitted shall comply with the requirements of the General Permit, as described in Attachment C:

- a) An executive summary discussing compliance or violation of this General Permit and the effectiveness of the APAP to reduce or prevent the discharge of pollutants associated with algaecide and aquatic herbicide applications;
- b) A summary of monitoring data, including the identification of water quality improvements or degradation as a result of the algaecide or aquatic pesticide application, if appropriate, and recommendations for improvements to the APAP (including proposed best management practices (BMPs)) and monitoring program based on the monitoring results. All receiving water monitoring data shall be compared to receiving water limitations and receiving water monitoring triggers;
- c) Identification of BMPs currently in use and a discussion of their effectiveness in meeting the requirements in this General Permit;
- d) A discussion of BMP modifications addressing violations of this General Permit;
- e) A map showing the location of each treatment area;
- f) Types and amounts of algaecides and aquatic herbicides used at each application event;

- g) Information on surface area and/or volume of treatment areas and any other information used to calculate dosage, concentration, and quantity of each algaecide and aquatic herbicide used;
- h) Sampling results shall indicate the name of the sampling agency or organization, detailed sampling location information (including latitude and longitude or township/range/section if available), detailed map or description of each sampling area (address, cross roads, etc.), collection date, name of constituent/parameter and its concentration detected, minimum levels, method detection limits for each constituent analysis, name or description of water body sampled, and a comparison with applicable water quality standards, description of analytical QA/quality control plan. Sampling results shall be tabulated so that they are readily discernible; and
- i) Summary of algaecide and aquatic herbicide application log;
- j) Proposed changes to the APAP or monitoring program.

7.6.3 Twenty-Four Hour Report

The District shall report to the State Water Board and RWQCB any noncompliance, including any unexpected or unintended effect of an algaecide or aquatic herbicide use that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the District becomes aware of the circumstances and must include the following information;

- a) The caller's name and telephone number;
- b) Applicator name and mailing address;
- c) Waste Discharge Identification (WDID) number;
- d) The name and telephone number of a contact person;
- e) How and when the Coalition or Discharger become aware of the noncompliance;
- f) Description of the location of the noncompliance;
- g) Description of the noncompliance identified and the U.S. EPA pesticide registration number for each product the Discharger applied in the area of the noncompliance; and
- h) Description of any steps that the Coalition or Discharger has taken or will take to correct, repair, remedy, cleanup, or otherwise address any adverse effects.

7.6.4 Five-Day Written Report

The District shall also provide a written submission within five days of the time the District becomes aware of the noncompliance. The written submission shall contain the following information:

- a) Date and time the Coalition or Discharger contacted the State Water Board and the appropriate Regional Water Board notifying of the noncompliance and any instructions received from the State and/or Regional Water Board; information required to be provided in Section D.1 (24-Hour Reporting);
- b) A description of the noncompliance and its cause, including exact date and time and species affected, estimated number of individual and approximate size of dead or distressed organisms (other than the pests to be eliminated);

- c) Location of incident, including the names of any waters affected and appearance of those waters (sheen, color, clarity, etc.);
- d) Magnitude and scope of the affected area (e.g. aquatic square area or total stream distance affected);
- e) Algaecide and aquatic herbicide application rate, intended use site (e.g., banks, above, or direct to water), method of application, and name of algaecide and herbicide product, description of algaecide and herbicide ingredients, and U.S. EPA registration number;
- f) Description of the habitat and the circumstances under which the noncompliance activity occurred (including any available ambient water data for aquatic algaecides and aquatic herbicides applied);
- g) Laboratory tests performed, if any, and timing of tests. Provide a summary of the test results within five days after they become available;
- h) If applicable, explain why the Coalition or Discharger believes the noncompliance could not have been caused by exposure to the algaecides or aquatic herbicides from the Coalition's or Discharger's application; and
- i) Actions to be taken to prevent recurrence of adverse incidents.

8.0 Description of Implemented BMPs

During pesticide application, the BMPs listed below shall be implemented by the District to maximize the efficiency of control efforts and minimize adverse impacts to the environment.

8.1 LICENSING

The District will use pesticide applicators licensed with a Qualified Applicator Certificate (QAC) or Qualified Applicator License (QAL). QAC and QAL holders are, in the course of their certification, educated on avoiding adverse effects from pesticide applications. Annual training is required for all applicators, which will outline proper application techniques and equipment, applicable laws and regulations. The prevention of pesticide spills and procedures for cleanup of any spills that occur is part of QAC/QAL training and will be the responsibility of the trained applicator.

8.2 APPLICATIONS MADE ACCORDING TO LABEL

All pesticide applications will be made according to the product label and will follow regulations of the U.S. EPA, California EPA, the Department of Pesticide Regulation, and the local Agricultural Commissioner. The District will follow updates to the label, in order to comply with current label directions. These measures will ensure that a minimum and consistent amount of pesticide is used for targeted weeds and should prevent fish kills.

8.3 EXAMINATION OF POSSIBLE ALTERNATIVES TO APPLICATION OF AQUATIC PESTICIDES

The District has evaluated alternatives to the use of aquatic pesticides, as described below:

No Action

The District routinely reconnoiters its water bodies and conveyance facilities to monitor the establishment and growth of aquatic weeds. In most cases where the infestation is limited and stable, no action will be taken. For the sake of economy, weed control is not pursued until the scale of infestation and the potential to impair infrastructure is apparent and action is necessary.

Prevention

The waterways maintained by the District convey natural stream flows, stormwater, and in some cases irrigation water or irrigation return water. The wide range of source waters and the rural context of most of our facilities mean weed species are always being imported into our system from outside areas over which we have no control. Prevention efforts are accordingly of limited effectiveness. However, our system-wide maintenance program serves to maintain the grades, channel geometry and hydraulic capacity of all elements of our system, which in turn ensures flood and are storm waters efficiently transported into, through and out of our jurisdiction. This in itself limits water residence time and avoids the pooling of water, reducing opportunities for weed species to colonize our facilities.

Mechanical/Physical Methods

Historically the District has used mechanical removal of nuisance vegetation in its waterways and bordering its stormwater basins. Methods include hand-cutting, hand-pulling and weed-whacking, but may also include use of larger equipment in channels and on embankments. Mechanical methods can disturb stream bank surfaces, induce soil erosion and compromise the geometry and stability of our conveyance system. Mechanical techniques can also introduce sediment and turbidity into streams, reduce oxygen levels and complicate weed control by fragmenting the plants and allowing them to drift away from the treatment area.

For those parts of our system where use of aquatic pesticides is appropriate, cost savings will be substantial. We estimate the cost of mechanical methods to be several times the cost of spraying aquatic pesticides. Of course, in those cases where the use of aquatic pesticides is not practical or cost-effective, and the risks of mechanical methods acceptable, the District will continue to employ mechanical/physical methods.

Controlled Burns

Controlled burns have not been used by the District due to the complexity of meshing the burn permit requirements with our own maintenance schedules, the linear nature of our waterways and their proximity to vegetative growths and private property, and the extraordinary liability that comes with use of controlled burns.

Grazing

The District has used grazing (sheep and cows) to control vegetation at its stormwater basins and reservoir sites. Based on our observations, this method is well suited for open areas and poorly suited for narrow channels. Managing animals along our conveyances would require an extraordinary amount of moveable fencing and monitoring. As with mechanical methods, grazing animals can disturb channel sides, soils and geometry.

8.4 SITE EVALUATION AND PRE-TREATMENT MONITORING

The District or licensed contractor will conduct a site evaluation prior to the application of aquatic pesticides to identify weed species that are present, their size, and their location. Using this evaluation, it will be determined whether alternative removal methods can be used. If herbicide treatment is chosen as the preferred method, the applicator will determine the type of application and the necessary amount.

8.5 BMPS DONE PRIOR TO AND DURING TREATMENT

- If the wind is high enough where significant drift will be a problem, the application will either be postponed or terminated.
- If it is raining or there is rain forecasted for shortly after a scheduled application, the application will be postponed.

- If the applicator observes any other negative site conditions, the application will be postponed.
- Calibration of equipment i.e. spray rates, equipment leaks, on site spills

8.6 POST TREATMENT EVALUATION

The herbicide efficacy will be assessed, beginning one week after application. If a treatment is proving ineffective or drainage area is modified by construction, crews will take corrective action, by reevaluating the application or finding alternatives.

8.7 EVALUATION OF OTHER AVAILABLE BMPS

If other BMPs are identified, the District will evaluate them for implementation.

Appendix A

Field Forms

Aquatic Pesticide Application Log (to be filled out by APPLICATOR)			
General Information			
Date:	Start Time:	Stop Time:	
Location:			
Personnel:			
Weather (fog, rain, wind, etc):			
Water Body Information			
Target Weeds:			
Percent of Water Surface Being Sprayed that is Covered by Weeds:		Water Temp (°C):	
Type of Water Body (circle): Dry (No Water) Standing Water Flowing Water			
Sheen:	Yes No	Clarity Fair Good Poor	
		Color:	
Other Observations:			
Application Details			
Pesticide 1			
Pesticide Used:		Adjuvant:	
Method of Application (circle):	Boom Sprayer Hand Sprayer Backpack Sprayer Other:		
Quantity Applied:		Concentration:	
Notes:			
Pesticide 2 (if necessary)			
Pesticide Used:		Adjuvant:	
Method of Application (circle):	Boom Sprayer Backpack Sprayer Other:		
Quantity Applied:		Concentration:	
Notes:			
Certification			
I _____ (print name) certify that the FMFCD APAP has been followed: Signature: _____ Date: _____			

Aquatic Pesticide Monitoring Field Log (to be filled out by Sampling Crew)					
General Information					
Site ID:			Approximate Application Area (acres):		
Date:			Time of Arrival:		
Sampling Crew:					
Type of Water Body (circle): Dry (no water) Static (No-Flow) Flowing					
Type of Pesticide Applied:					
GPS Coords:		Latitude:		Longitude:	
Photos Taken (reference):					
Weather (fog, rain, wind, etc):					
Sheen:	Yes	No	Clarity	Fair	Good Poor
Odor:	Yes	No	Floating Material:	Yes No	Color:
Other Observations:					
<input type="checkbox"/> Pre-Event		<input type="checkbox"/> Event		<input type="checkbox"/> Post-Event	
Sample Collection Time:		Water Samples Collected:		Glyphosate	Triclopyr Nonylphenol
Field Measurement Time:		Temperature (°C):		pH:	
Dissolved Oxygen (mg/L):		Turbidity (NTU):		Conductivity (µs/cm):	
Description of Sample Location:					
Date:			Time of Leaving:		
Signature:					

Appendix B

Chain of Custody Form

1414 Stanislaus St., Fresno, CA 93706
(559) 497-2888 Fax (559) 497-2893
www.bsksociates.com

ANALYTICAL CHAIN OF CUSTODY

Company/Client Name: Fresno Metro Flood Cntrl District		Report Attention: Daniel Rourke		Invoice To: Daniel Rourke		Phone: 559-456-3292		Fax: 559-456-3194	
Address: 5469 E. Olive		City: Fresno		State: California		Zip: 93727		E-mail: danielr@fresnofloodcontrol.org	
Project: 		Project #: 		Regulatory Carbon Copies <input type="checkbox"/> CDPH <input type="checkbox"/> Fresno Co <input type="checkbox"/> Merced Co <input type="checkbox"/> Tulare Co <input type="checkbox"/> Madera Co <input type="checkbox"/> Other:		Regulatory Compliance <input type="checkbox"/> EDD to California DPH System Number:		Geotracker #: 	
Reporting Options: <input type="checkbox"/> Traces (J-Flag) <input type="checkbox"/> Swamp <input type="checkbox"/> EDD Type:		How would you like your completed results sent? <input checked="" type="checkbox"/> E-Mail <input type="checkbox"/> Fax <input type="checkbox"/> Mail		Standard - 10 Business Days <input type="checkbox"/> Standard <input type="checkbox"/> Rush: Date Needed		Comments / Station Code / WTRAX 			
Sampler Name (Printed/Signature): 		Matrix Types: SW=Surface Water BW=Boiled Water GN=Ground Water STM=Storm Water DW=Drinking Water SO=Solid		Sampled* Date Time		Matrix* 			
						</			